



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,970	03/02/2004	Weiling Peng	HARD1.020DV1	3693
20995	7590	09/21/2006	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP			MUSSEY, BARBARA J	
2040 MAIN STREET			ART UNIT	
FOURTEENTH FLOOR			PAPER NUMBER	
IRVINE, CA 92614			1733	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/791,970

Applicant(s)

PENG ET AL.

Examiner

Barbara J. Musser

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION.**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-1-6 and 8-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 17, it is unclear how a fiber cement assembly(preamble) can not contain fiber cement. The preamble indicates the assembly is made of a substrate, two adhesive layers, and a fluorocarbon film. Therefore, the substrate must contain the fiber cement. However, the body of the claim indicates the substrate can be metal, wood, or plastic, and the specification indicates these are alternatives to fiber cement, not in addition to fiber cement. If they are intended to be in addition to the fiber cement, it is unclear where the fiber cement is located as the claim has not indicated its position within the article. It is suggested applicant remove "fiber cement" from the preamble.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 5, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simms(U.S. Patent 3,133,854) in view of Hale et al.(U.S. Patent 5,098,498), and Petropoulos.

Simms discloses applying a polyvinyl fluoride to an asbestos cement or wood substrate using an adhesive.(Figure; Col. 3, ll. 39-40) Asbestos is considered a type of fiber. This laminate can be used as siding or roofing.(Col. 6, ll. 43-46) The reference does not disclose the specifics of the application of the film to the substrate other than that the adhesive is applied to the substrate and is bonded under heat and pressure.(Col. 7, ll. 45-53) Hale et al. discloses bonding a film to a porous substrate by applying a film to a substrate, pulling a vacuum, and bonding the film to the top and sides of the substrate under heat and pressure.(Col. 2, ll. 33-50; Figure 3) Since a vacuum is used to pull the film against the substrate, this vacuum induces a relative pressure across the film such that it is pressed into the adhesive. Hale et al. indicates the film conforms exactly to the contour of the article.(Col. 2, ll. 43-48) Petropoulos et al. discloses that generally asbestos cement board have a plurality of protuberances and valleys, therefore having a texture.(Col. 2, ll. 12-15) It would have been obvious to one of ordinary skill in the art at the time the invention was made to press the film of Simms against the substrate using the vacuum press of Hale et al. since this would allow formation of the article in a continuous inline process(Col. 2, ll. 30-34) and that this process would transfer the texture of the substrate to the film since Hale et al. discloses the film conforms exactly to the contour of the article and Petropoulos discloses that

Art Unit: 1733

fiber cement boards like that of Simms have a texture, indicating the surface has a contour to which the film would conform.

Regarding claim 11, while Simms does not disclose the specific temperature and pressure ranges claimed, one in the art would appreciate that the temperature and pressure required would be dependent on the adhesive and the substrate, and would have been within the purview of one in the art. Only the expected results would be achieved.

5. Claims 1-3, 7, 10, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simms in view of the admitted prior art as evidenced by Ewaschuk(U.S. Patent 5,728,246), Petropoulos, and Halls et al.(U.S. Patent 4,894,102).

Simms discloses applying a polyvinyl fluoride to an asbestos cement or wood substrate using an adhesive.(Figure; Col. 3, ll. 39-40) Asbestos is considered a type of fiber. This laminate can be used as siding or roofing.(Col. 6, ll. 43-46) The reference does not disclose the specifics of the application of the film to the substrate other than that the adhesive is applied to the substrate and is bonded under heat and pressure.(Col. 7, ll. 45-53) The admitted prior art discloses that membrane presses are well-known for bonding films to substrate by pressing the film so that it conforms to the shape of the substrate, but do not disclose the specifics of the devices as part of the admitted prior art.([0053],[0056]) Ewaschuk discloses that membrane vacuum presses conventionally have a rubber membrane which pressing a layer against a substrate.(Col. 4, ll. 37-41) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a membrane press to press the film against

Art Unit: 1733

the substrate since the admitted prior art discloses such presses are well-known for pressing a film so that it conforms to the shape of the substrate.[0053] Such presses use a rubber sheet which presses against the side of the film opposite the substrate.

The references cited above do not disclose the texture of the cement board or that it transfers through the film. Petropoulos et al. discloses that generally asbestos cement board have a plurality of protuberances and valleys, therefore having a texture.(Col. 2, ll. 12-15) Halls et al. show that membrane presses press the film into the texture of the substrate such that the texture is transferred to the film from the substrate.(Figure 3) It would have been obvious to one of ordinary skill in the art at the time the invention was made that the substrate would have a texture which would transfer through the film since Petropoulos discloses that fiber cement boards like that of Simms have a texture, and Halls et al. shows that membrane presses press the film tightly enough against the substrate that the texture of the substrate transfers through the film.(Figure 3)

Regarding claims 3 and 7, while the references cited above do not discloses the thickness or hardness of the rubber membrane, the thicknesses and hardnesses of rubber sheets used in membrane presses are well-known in the press art and well within the purview of choice of one skilled in the art.

Regarding claim 10, Simms and the admitted prior art do not disclose a plurality of supports under the substrate. Ewaschuk discloses a plurality of supports(42) under the pressing location, which together are less than the width of the substrate.(Figure 9; Col. 4, ll. 43-47) It would have been obvious to one of ordinary skill in the art at the time

Art Unit: 1733

the invention was made to provide a plurality of support blocks which together are less than the width of the substrate since Ewaschuk discloses this will allow substantially uniform pressure over the entire edge.(Col. 4, ll. 44-47)

Regarding claim 16, cementitious materials conventionally have hydroxyl groups, and therefore would have hydroxyl groups positioned to bond with the adhesive.

6. Claims 1, 4-6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simms in view of the admitted prior art, Petropoulos, and Halls et al.(U.S. Patent 4,894,102).

Simms discloses applying a polyvinyl fluoride to an asbestos cement or wood substrate using an adhesive.(Figure; Col. 3, ll. 39-40) Asbestos is considered a type of fiber. This laminate can be used as siding or roofing.(Col. 6, ll. 43-46) The reference does not disclose the specifics of the application of the film to the substrate other than that the adhesive is applied to the substrate and is bonded under heat and pressure.(Col. 7, ll. 45-53) It does not disclose a bonding apparatus having a horizontal member comprising a metal platen covered with a rubber layer and vertical members comprising a plurality of rubber belts. However, applicant appears to indicate that such is a well-known type of bonding apparatus as applicant indicates the membrane presses, vacuum presses, and continuous isobaric presses are known in the art.([00523]-[0057]) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any well-known type of press to press the film against the cement board since such devices are well-known in general in the bonding arts as indicated by applicant's own admitted prior art.([0053]-[0057])

The references cited above do not disclose the texture of the cement board or that it transfers through the film. Petropoulos et al. discloses that generally asbestos cement board have a plurality of protuberances and valleys, therefore having a texture.(Col. 2, ll. 12-15) Halls et al. show that membrane presses press the film into the texture of the substrate such that the texture is transferred to the film from the substrate.(Figure 3) It would have been obvious to one of ordinary skill in the art at the time the invention was made that the substrate would have a texture which would transfer through the film since Petropoulos discloses that fiber cement boards like that of Simms have a texture, and Halls et al. shows that membrane presses press the film tightly enough against the substrate that the texture of the substrate transfers through the film.(Figure 3)

Regarding claim 8, while the references cited above do not discloses the thickness or hardness of the rubber membrane, the thicknesses and hardnesses of rubber sheets used in membrane presses are well-known in the press art and well within the purview of choice of one skilled in the art.

Regarding claim 9, since the purpose of the side belts is to apply pressure to the side of the substrate to bond the film to the substrate, one in the art would appreciate that the side belts would be greater than the combined width of the laminate, i.e. of the substrate, first adhesive layer, and film, so as to apply the pressure evenly to the entire side of the laminate.



***Allowable Subject Matter***

7. Claims 12-14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: regarding claims 12 and 13, the prior art of record does not teach or fairly suggest a method of bonding a fluorocarbon film to the top and sides of a substrate using an adhesive at the same time wherein the adhesive includes a reactive isocyanate and a catalyst capable of catalyzing a reaction between the isocyanate and hydroxyl groups. Regarding claim 14, the prior art of record does not teach or fairly suggest a method of bonding a fluorocarbon film to the top and sides of a substrate using an adhesive at the same time wherein the adhesive is a hot melt polyurethane adhesive.

***Response to Arguments***

9. Applicant's arguments filed 6/27/06 have been fully considered but they are not persuasive.

Regarding applicant's argument that Simms requires a complicated method for applying the film to the substrate, applicant's claims do not exclude such steps.

Regarding applicant's argument that Simms teaches an entirely different method in which an adhesive is applied to a substrate, the adhesive is heated, and the film is applied, applicant's claims require applying adhesive to a substrate and then applying a

Art Unit: 1733

film. The step of heating the adhesive is not required, but is not excluded either.

Afterwards, the film is pressed against the substrate, again as required by the claims.

Regarding applicant's argument that there is no suggestion in Simms to teach applicant's claimed method, the reference discloses that pressure can be applied, but does not disclose the specific means, leading one in the art to look to devices that use pressure to apply a film to a substrate. Applicant's claimed method only requires applying heat and pressure to bond the film to the sides and top of the substrate at the same time, as it taught by Hale et al., and as applicant has indicated, many conventional pressing devices.[0052]

Regarding applicant's argument that Simms is unpredictable with respect to applicant's invention, examiner is unclear what applicant is arguing. There is no suggestion that the process of Simms would not work, and one in the art would look to conventional pressure applicators as a method to apply pressure in Simms.

Regarding applicant's argument that there is no reasonable expectation of success, Simms clearly teaches a successful process, and one in the art would look to conventional pressure applicators as a method to apply pressure in Simms without any reason to think that conventional types of pressure applicators would not work.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 1733

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara J. Musser whose telephone number is (571) 272-1222. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571)-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 1733

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



BJM



RICHARD CRISPINO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER